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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Case 21129		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA416)	
International application No. PCT/EP 03/07575	International filing date (day/month/year) 14.07.2003	Priority date (day/month/year) 23.07.2002	
International Patent Classification (IPC) or both national classification and IPC C07D311/36			
Applicant DSM IP ASSETS B.V.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the opinion</li><li>II <input type="checkbox"/> Priority</li><li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input type="checkbox"/> Certain defects in the international application</li><li>VIII <input type="checkbox"/> Certain observations on the international application</li></ul>			
Date of submission of the demand  06.02.2004		Date of completion of this report  25.11.2004	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Ousset, J-B  Telephone No. +49 89 2399-8271	

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**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/07575**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-23 as originally filed

**Claims, Numbers**

1-16 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-24
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-24
Industrial applicability (IA)	Yes: Claims	1-24
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**SECTION V**

1). Relevant prior art is represented by:

- D1: PIVOVARENKO V G ET AL: 'CROSSFIRE BEILSTEIN' CROSSFIRE BEILSTEIN, XP002211266 & CHEM. HETEROCYCL. COMPD.(ENGL. TRANSL.), vol. 28, no. 5, 1992, pages 497-502,
- D2: PIVOVARENKO V G ET AL: 'CROSSFIRE BEILSTEIN' CROSSFIRE BEILSTEIN, XP002211268 & CHEM. NAT. COMPD. (ENGL. TRANSL.), vol. 24, no. 4, 1988, pages 432-8,
- D3: YU-CHEN CHANG ET AL.: 'MICROWAVE-MEDIATED SYNTHESIS OF ANTICARCINOGENIC ISOFLAVONES' JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY., vol. 42, 1994, pages 1869-71, XP000465853 AMERICAN CHEMICAL SOCIETY. WASHINGTON., US ISSN: 0021-8561
- D4: WO 02 085881 A (ROCHE VITAMINS) 31 October 2002 (2002-10-31)
- D5: PIVOVARENKO V G ET AL: 'CROSSFIRE BEILSTEIN' CROSSFIRE BEILSTEIN, XP002211266 & CHEM. HETEROCYCL. COMPD.(ENGL. TRANSL.), 1991, pages 496-501.

2). The claimed matter is novel in view of the disclosure of D1 (see page 498, top of the page), since the formic anhydride used in D1 is the acetic formic anhydride. This compound does not fall within the scope claimed by the applicant in claim 1 for the values of  $R^3$ .

3). D1 represents thus the closest prior art.

The problem underlying the current application appears to be the provision of a further process to make available compounds of formula (I).

In view of the data provided by the applicant, this problem is considered as being solved.

Nothing in D1 would give the skilled person a hint to use another formic anhydride as the one used in D1 to arrive at the same compounds.

However, if as shown by the applicant, this approach is not obvious, it remains questionable whether the skilled person would expect that the reaction takes place for whole the claimed values of the groups  $R^3$  knowing that the replacement of an acetyl

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group by a propyl group leads to an unexpected result.

In other words, if the skilled person would not arrive at the claimed process starting from D1 in an obvious manner, then for which reasons the same skilled person would consider the claimed generalisation as obvious.

An inventive step on the whole claimed scope cannot be acknowledged.

4). There is no objection with regard to industrial applicability.